agree to clean up the Great Lakes. Representatives of 114 countries meet in Stockholm, Sweden, in first global endangered species and wild flora and fauna. EPA begins to phase out lead in gasoline. Energy crisis

CLEAN WATER

Water quality has always been the backbone of environmental protection. When EPA was formed in 1970, many of its responsibilities came from the old Federal Water Quality Administration. And once the agency was up and running, many of its early headlines came from enforcement of the 1972 Federal Water Pollution Control Act Amendments. The 1974 Safe Drinking Water Act quickly followed, as did the 1977 Clean Water Act -- a stronger, retitled version of the 1972 law.

Water is also the lifeblood of the West. Most areas in Region 8 average less than 15 inches of rainfall a year -- a precious commodity indeed. Yet, we haven't always recognized the importance of water. Before EPA and the Clean Water Act, hundreds of communities discharged raw sewage into waterways such as the South Platte, Arkansas and Missouri Rivers. Many rivers were literally open sewers.

Today, water quality and quantity are recognized as vital to supporting Region 8's people, economies and natural systems. However, challenges remain. While we have addressed the major point sources of pollution to our waters -- such as wastewater and industrial discharges -- more difficult-to-manage pollution from mining, agriculture and urban runoff still poses threats to surface and groundwater quality.

The Clean Water Act

The Clean Water Act spells out two basic goals: eliminating pollutant discharges into the nation's lakes, rivers and streams; and restoring and maintaining the chemical, physical and biological integrity of our waters. In simpler terms, the Act calls for lakes and rivers to be clean enough to support aquatic life and human uses such as swimming, fishing and drinking water supplies. In Region 8, EPA's efforts to reach those goals include:

• *Establishment and enforcement of permit limits.* EPA and the Region 8 states control pollutant discharges from over 2,000 point sources including sewage treatment plants, storm water systems, animal feedlots, factories, mills, active mines, metal works, oil wells and food processors. Nationally, this program prevents well over a billion pounds of toxic pollution from entering our nation's water each year.

• *Nonpoint source controls.* Today, as much as 98% of water quality problems begin with runoff from agriculture, mining sites, residential and urban lands, or atmospheric deposition. These scattered pollution sources are more difficult to address because they are so numerous and defy end-of-pipe control measures. Since 1989, EPA has awarded more than $58 million in grants to Region 8 states and tribes to support nonpoint source programs. EPA also provides technical assistance to help solve water quality problems from irrigation, livestock production, forestry, mining and urban sources.

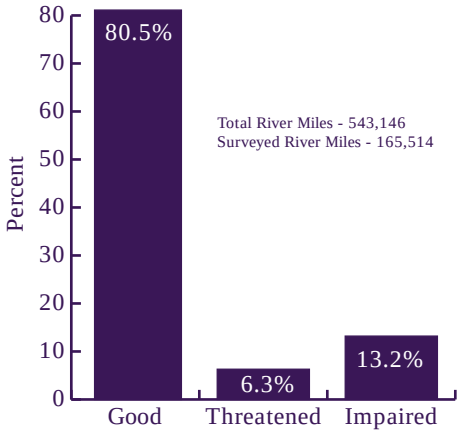
• *Clean Water State Revolving Fund.* Since 1987, EPA has awarded more than $513 million to Region 8 state

environmental conference. 1973 Congress passes Endangered Species Act. 80 nations sign treaty to protect grips the world, exacerbated by an Arab nations oil embargo. 1974 Theory is published on how

Water Quality Monitoring

Under the Clean Water Act, states, tribes and local agencies monitor the quality and safety of their surface waters for a variety of designated uses, from drinking water to swimming and boating, to supporting aquatic life. Each state, and some tribes, develop standards for these uses and a monitoring program based on federal guidelines. States report on the status of water quality to EPA and Congress every two years.

Summary of Use Support Rivers and Streams



Good - Fully supports all designated uses.
Threatened - Water is considered good, but one or more uses are threatened.
Impaired - Water is impaired for one or more uses.

Source: State 305(b) Reports

Region 8 state monitoring activities reveal that a large portion of surveyed rivers and streams are clean enough to support designated uses such as fishing, swimming and aquatic life.

revolving loan funds to help states build, upgrade and fund wastewater, storm water and pollution control projects. States match 20% of EPA's annual award amounts and distribute loans for high-priority projects. Recently, EPA has begun encouraging the use of these funds to support nonpoint source work.

Groundwater Protection

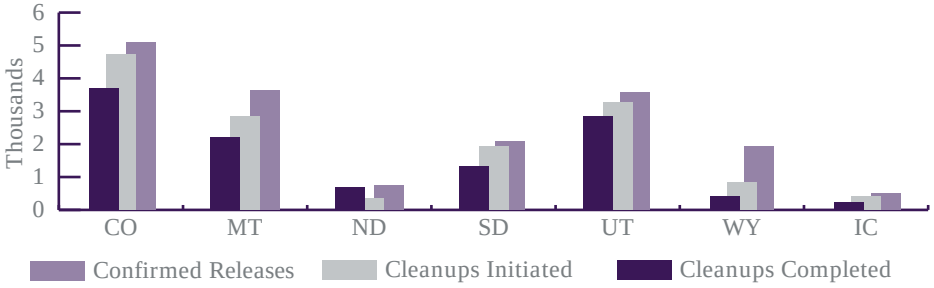
Over one-third of Region 8's population relies on underground aquifers for drinking water. As our states continue to grow, groundwater use is increasing, making its protection a priority.

To protect groundwater quality, EPA supports states and tribes in identifying and cleaning up underground storage tanks (UST's) that are leaking petroleum and other hazardous substances. As of the end of 1999, cleanups of leaking tanks have been initiated or completed at over 14,000 sites in Region 8. EPA and the states also regulate over 25,000 active UST systems. EPA is focused on enforcing new tank requirements that call for substandard USTs be upgraded, replaced or closed to meet a national goal of 90% compliance by 2000.

Protecting the Missoula Valley Aquifer

In 1986, Missoula, Montana's drinking water wells were threatened by tetrachloroethylene (perc or PCE), a toxic solvent used in dry cleaning. From 1990-93, EPA awarded grants to the city and county to address chemical contamination in the groundwater. Partnerships have developed among local government officials, private business owners and citizen groups to protect their sole drinking water source. Success has been dramatic, with PCE detections in wells reduced from a high of 12 wells in 1989 to zero in 1998.

Progress Cleaning Up Leaking Underground Storage Tanks



IC - Denotes Indian Country -- Includes Data Through 9/99

Source: State reporting

chlorofluorocarbons (CFCs) destroy the stratospheric ozone layer, which protects Earth from ultraviolet in new vehicles. 1976 Congress mandates cradle-to-grave regulation of hazardous waste. President Gerald

EPA's Underground Injection Control program also protects underground drinking water sources. Region 8 has thousands of Class V injection wells or drainfields, shallow disposal systems that inject liquid wastes underground, above water sources. Wells vary in size, type and engineering complexity, and some pose potential hazards to groundwater. EPA recently issued stricter regulations banning new wells for disposing used motor oil and large-capacity cesspools, and phasing out existing wells. To date, Region 8 and state agencies have closed more than 1,000 Class V wells to protect groundwater resources. Region 8 also recently produced a video -- available at no cost -- to help the regulated community comply with Class V rules.

Pesticides

Pesticides have been recognized as a serious threat to water quality for decades. The effects of DDT and other highly toxic pesticides -- given widespread attention by Rachel Carson's groundbreaking book *Silent Spring* -- were an early impetus for EPA activities. Since the 1970s, EPA has led the effort to eliminate the most dangerous pesticides and regulates the registration and use of thousands of others.

Region 8 also works with states and tribes to develop pesticide management plans that focus on protecting vulnerable groundwater resources. In addition, Region 8 provides grants for pesticide applicator training and certification programs. By providing safety training emphasizing proper techniques for use, storage and disposal, these programs reduce human and environmental pesticide exposure. In Colorado alone, EPA Region 8 has trained over 14,000 farmers and ranchers.

Animal Feeding Operations (AFOs)

The influx of large-scale livestock facilities to the Region has become a significant environmental issue. Manure and wastewater from these operations can pollute waterways with excess nutrients, organic matter and pathogens. These pollutants can contaminate surface and groundwater, causing fish kills and outbreaks of toxic algae and microbes. To address these concerns, EPA, with the U.S. Department of Agriculture, recently developed a Unified National Strategy for Animal Feeding Operations. The strategy employs a range of flexible, common-sense tools to reduce potentially harmful runoff from AFOs.

Region 8's AFO team has conducted one-on-one visits with each state to learn how their efforts can fulfill the national goal of controlling water pollution. The team is seeking extensive input

Widespread and difficult-to-manage "nonpoint" pollution sources are the biggest source of water quality problems nationally and in Region 8. The runoff of nutrients, pesticides and sediments from irrigated cropland can impact both surface and groundwater quality.

radiation. Congress passes the Safe Drinking Water Act. 1975 Carmakers begin installing catalytic converters Ford mandates phase out of polychlorinated biphenyls (PCBs). 1977 National energy plan of President Jimmy

Clean water is a valuable resource for Region 8 residents and visitors who rely on our rivers, lakes and groundwater for drinking water supplies. Our waters also support recreation such as fishing, boating and swimming.

from all stakeholders, including federal partners, state agricultural and water pollution agencies, producer groups and farmers.

Drinking Water

The 1974 Safe Drinking Water Act (SDWA) requires EPA to set drinking water standards and regulate public water systems (PWSs). These systems must monitor regularly for contaminants and meet specific quality standards and treatment requirements. To maintain local drinking water quality, EPA and the states monitor and record the testing of over 80 pollutants in more than 7,000 public water systems in Region 8.

In large part due to the SDWA, the U.S. enjoys one of the most reliable drinking water supplies in the world. Although standards for contaminant levels are rarely violated, nitrates, bacteria, chemicals, and other contaminants still threaten our drinking water.

EPA recognizes that building treatment facilities and monitoring for contaminants is not enough -- the water we drink must be kept clean in the first place. The 1996 SDWA amendments emphasize pollution prevention, with a new focus on protecting drinking water sources from contamination.

To that end, EPA provides funding and technical support to states, tribes and local governments for source water assessment and protection , groundwater protection, and wellhead protection. Source water assessments, for example, help states estimate a PWS's susceptibility to contaminants and create source water management plans.

Region 8 Population Served by CWSs in Violation of Health-Based Standards

	Population Served by Systems Reporting Violations	% of Total CWS Population
1993	218,612	2%
1994	346,384	4%
1995	247,876	3%
1996	191,376	2%
1997	259,957	3%
1998	248,019	3%

Community water systems are making major investments in water treatment systems and source water protection to ensure safe and reliable drinking water supplies. This graphic shows that over 95% of the Region's community system users have consistently safe drinking water. Chronic or one-time violations typically affect less than 5% of those served.

Clean Water Action Plan (CWAP)

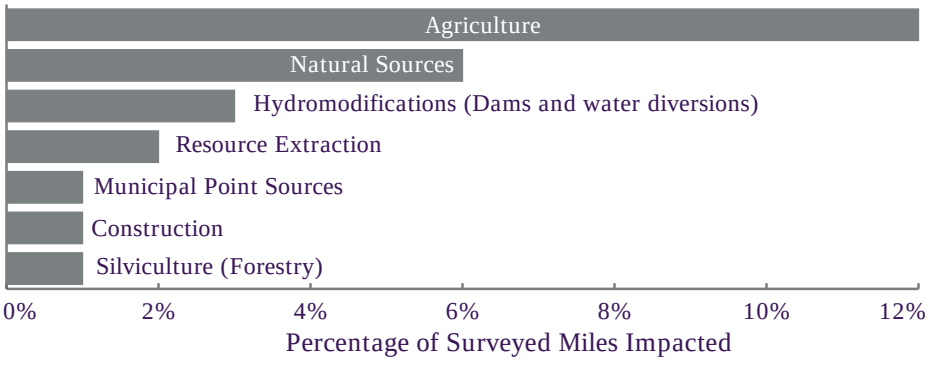
This national strategy leverages federal assistance and support to strengthen leadership at the local level in protecting valuable water resources. Region 8 has focused on partnering with states and other agencies to target high-priority watersheds, participating in watershed-based partnerships, and intensifying the evaluation of water bodies and aquatic systems. In 1999, each state developed rankings of their watersheds -- called Unified Watershed Assessments -- which will be used to focus resource investments and restoration strategies in upcoming years.

Carter focuses on conservation and renewable, non-polluting energy resources. 1978 EPA and other agencies accident at Three Mile Island, near Harrisburg, Pa., increases public debate about the safety of nuclear

So, how are we doing? Drinking water data collected by EPA and the states indicate that most systems in Region 8 are in full compliance with health-based standards, while a few report violations for various types of contaminants. Most violations occur in smaller, rural systems with resource and expertise limitations. EPA's safe drinking water goals and ongoing pollution prevention and infrastructure improvements are expected to ensure even more progress in the future.

The 1996 amendments also created drinking water state revolving funds for water treatment plants and technology improvements. EPA offers matching grants to states that establish revolving loan funds for high-priority water treatment projects.

Leading Sources of Pollution in Region 8 Rivers and Streams



Source: 1998 State 305(b) Reports

Enforcement

Enforcing environmental laws is critical to protecting and restoring water resources. A recent Region 8 case involved about 15 square miles of groundwater contamination from oil and gas development in one of Montana's pristine aquifers. In 1999, Region 8 ordered eight oil and gas companies to provide bottled drinking water to 20 residences with contaminated private wells on the Fort Peck Indian Reservation. Region 8 anticipates requiring a long-term remedy for this groundwater contamination, which may include re-plugging wells, permanently supplying an alternative water source and/or cleaning the aquifer.

Watershed Protection

EPA is placing an increased emphasis on community-based watershed protection. Instead of focusing on single pollution sources or problems, the watershed approach takes a more comprehensive, holistic view of conditions, stressors and problems. For example, this approach may address protection for drinking water sources and wetlands areas, air deposition of toxic chemicals, polluted runoff from urban areas, as well as more traditional industrial and municipal wastewater discharges.

ban CFCs as a propellant in most aerosol cans. EPA Region 8 opens a field office in Helena, MT. 1979 An power. EPA withdraws Agent Orange from the U.S. market. 1980 Congress passes the Comprehensive